

REMARKS

Claims 1-35 are pending in the application. Claims 1-17, 32 and 33 are withdrawn from consideration. Claims 18-31, 34 and 35 are rejected. Claim 35 is objected to.

Objections to the Claims

Claim 35 is objected to because the Examiner asserts that it depends on a multiple dependent claim. Applicants respectfully disagree with this rejection.

Applicants agree that claim 35 is dependent from many claims; however, this is an allowable condition. Claim 35 does not depend from any “multiple dependent” claims. It may be that the Examiner inadvertently inferred that claim 35 was dependent from claim 33, itself a multiple dependent claim, or it may be that the Examiner did not note the preliminary amendment filed concurrently with the application. Applicants traverse this rejection.

Claim Rejections - 35 U.S.C. §102(e)

Claims 18-31, 34 and 35 are rejected under 35 U.S.C. §102(e) as being anticipated by Yoshioka et al (U.S. Publication No. 2002-0043215 A1).

The Examiner asserts that Yoshioka et al. teaches an apparatus for gasifying a solid material comprising: a solvent removal chamber 120 provided with an inlet port 6E/7 of a gasification solvent containing a first solid material (Ba, Sr and Ti), [paragraph 0079] and a solvent (THF, tetrahydrofuran) in which it is dissolved, a heating device 131 that vaporizes the solvent used to prepare the gasification solution by heating that solution, and an exhaust port 129 that removes the vaporization product of the solvent, and a solid sublimation chamber (i.e., CVD Reactor) either also used as the solvent removal chamber or arranged communicably adjacent to

it, and provided with a heating device that gasifies a second solid material separated by removal of the solvent by sublimation.

Applicants herein amend claims 18, 34 and 35 to clarify the invention. Thereafter, Applicants respectfully disagree with the rejection because not all of the claimed elements are taught by the cited reference.

As recited in amended claims 18, 34 and 35, which amendment is disclosed and supported on page 2, line 34 to page 3, line 20 and page 6, line 28 to page 10, line 12, of the specification, the gasifying apparatus of the present invention includes

a solvent removal chamber and

a solid sublimation chamber that may be identical to the solvent removal chamber.

That is, according to the present invention, a gasification solution containing a first solid material is heated in a solvent removal chamber to selectively remove a solvent, thereby producing a second solid material (corresponding to the first solid material) as a residue, and then the second solid material is subsequently heated in a solid sublimation chamber to gasify the second solid material by sublimation. The gasified second solid material is then supplied to a film formation chamber (recited in claims 34 and 35).

In other words, as is disclosed on page 7, lines 10-12 of the specification, the gasification process of the present invention is distinguished from Yoshioka et al. because the first solid material is not directly gasified by sublimation from a solution containing the same. As disclosed in detail in the text, the process of the present invention provides novel and unique advantages such as stable and simple gasification, application of a low temperature in the solvent removal step, easy maintenance of the film deposition device, reduction of the wasted raw

materials, inhibition of the undesirable reactions and decomposition products, recycling of the removed solvents and others.

Applicants note that the apparatus of Yoshioka et al. does not include all the elements as claimed. Yoshioka et al. discloses a process in which liquid substances, e.g., organometals dissolved in THF and mixed into a solvent (paragraph 79), are supplied to a vaporizer (paragraph 98) to be vaporized in a single step prior to being forwarded into a CVD chamber. Although solvent 4D may be removed from the liquid substances prior to vaporization, the liquid substances by definition are not a solid, as required in the present claim 18. The liquid substances are vaporized from a liquid state to a vapor state (paragraph 177), and then carried to a CVD reactor via a carrier gas.

In Yoshioka et al., there is no sublimation chamber as in the present invention, because there is no solid to sublime. In fact, Yoshioka teaches that when vaporizing the liquid substances 4A through 4C with the vaporizer, it is necessary to prevent the generation of non-vaporized residue and degradation of the liquid substances 4A through 4C due to heat history. In other word, Yoshioka et al. clearly states that solid substances are to be avoided.

Yoshioka et al. further teaches that to avoid the solid substances from forming, it is necessary to subject the liquid substances 4A through 4C to low pressure and increased temperature instantaneously. This type of situation is contemplated by the background section of the present specification, which teaches on page 2, lines 16-24 that, "in the case of a using a solvent vaporization process, there is the problem of the generation of residue and particles caused by separation and vaporization of solvent. Moreover, there are also cases in which film deposition is inhibited during the early stages of thin film formation due to the reducing action of the solvent."

Therefore, because not all of the claimed elements are taught or even suggested by the cited reference, Applicants submit that the present claims are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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